

BIOACCUMULATION ECOLOGICAL RISK NARRATIVE COMMENTS

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This is a great start and it is nice to see some more detailed narrative. It begins to fill some big holes in the rule, which makes readers of the rule more aware that this is an important exposure pathway. I have the following comments to add:

Other Ecological Pathways – Most other rules are divided into human health vs. ecorisk. They do not distinguish in this manner between bioaccumulative risks and all other exposure pathways as ways to protect ecological receptors, at least not at this higher level of organization. The heading of this section of the rule should simply be Protection of Higher Trophic Level Ecological Receptors, and the first sentence should identify that this includes fish and all wildlife that eat aquatic plants or aquatic life, or are otherwise exposed to sediments. The rest of the first paragraph is fine. By the way, this not just a fish issue. Shorebirds and certain mammals have direct exposures to intertidal sediments in the same manner as do humans, and these exposure pathways should be considered. Some ducks also ingest a fair amount of sediments when eating aquatic plants.

That said, it is critically important to include fish and not to reserve direct impacts to fish from sediments. Of all the aquatic receptors we could possibly want to protect, this is arguably the single one of most concern to all stakeholders in the region, including Indian tribes, recreational fishermen, commercial fishermen, and seafood consumers. By leaving it out, Ecology is not meeting its regulatory duty to protect ESA-listed species, protect the public trust, protect Indian treaty rights under the Boldt decision, or restore recreationally and commercially sustainable fisheries in the region. “Fishable and swimmable” is one of the basic tenets of the Clean Water Act, which is one of the implementing authorities for this rule, including the cleanup sections. “Reserved” has no place here. It sends a message that this is not important and is likely to be ignored compared to bioaccumulative contaminants in actual site decisions, despite all the boilerplate language to follow.

It cannot be argued that the science is really less developed than for bioaccumulative risks, since the section for bioaccumulative risks is also narrative and includes little in the way of specifics. Both issues suffer from the problem of getting from the receptor (fish in both cases, in different ways) and back-calculating to sediments. We’ll figure it out over time and put it in guidance documents. Meanwhile, what this section needs to do is lay out the important receptors and priorities. That may stimulate some movement on this issue at NOAA or F&W. Perhaps Ecology needs to work with them more proactively in providing funding and/or developing the guidance rather than waiting for them to produce something independently.

Species Guilds – There are a number of good starts at laying out narrative guidance on what is important here. I’d like to see added an overall list of species guilds that should be looked at (e.g., resident fish, anadromous fish, shorebirds, plant-eating ducks, fish-eating birds, top trophic level birds, marine mammals, shoreline omnivore mammals, top trophic level mammals such as ESA-listed orcas). Of course it has to be clear that this varies by location, but it’s a start at some

basic guidance in a few words, similar to the very nice discussion of endpoints in the first paragraph.

Definition of BCOCs – I recommend taking these definitions out and deferring to the much more extensive documents developed by DMMP and RSET. These interagency workgroups put a great deal of work over many years into identifying actual BCOCs for different regions of the state, as well as potential BCOCs that need to be looked at once more toxicological or analytical data become available. These documents will be a rich source of information for site managers and PLPs alike and it would be best if language in the rule did not conflict with or simplify the much more rigorous methods used to identify them. In addition, these documents have the advantage of being continually updated and clearly identifying those compounds that are NOT bioaccumulative as well as those that are.

Structure – (c) should be moved up after (a) and made parallel to (a), with the word “reserved” removed. In (c), an example of the effects of PAHs on fish should be included. (b) should be at the end and its language should be revised to include both (a) and the original (c).

Previous RSET Work – Just another plug for using as much of the existing RSET work as you can, in the rule and in the guidance that follows. We have already identified ecological receptors, BCOC lists, target tissue levels, exposure routes, equations and input parameters, regionally approved TRVs, etc. Focusing on back-calculating to sediments would be the biggest value-added that Ecology could provide without redoing all this work, and this would provide a great benefit to the DMMP/RSET program as well.